

Claims:

What is claimed is:

1. A method for preparing a composite non-woven fabric comprising the steps of:
 - a) providing a non-woven hydroentangled substrate web layer having a first binder fiber component, said first binder fibers having a desired melting temperature range;
 - b) depositing a second non-woven layer on said first layer to form an unbond composite, said second layer having a high bulk, high loft fiber component and a second binder fiber component, said second binder fibers having a desired melting temperature range substantially equal to said first binder fiber component melting temperature; and
 - c) thermally bonding with a heated gaseous medium said unbonded composite, said gaseous medium heated to a temperature in the range of said first and second binder fiber melting temperature; said first and second binder fiber components at least partially melting and flowing into an interface region between said first and second layers; and cooling said layers; said layers thereby stabilized and bonded together without increasing the density of either layer.
2. A method as in claim 1, wherein said first layer comprises hydroentangled staple fibers.
3. A method as in claim 1, wherein said first layer comprises 60-85% rayon fibers, and 40-15% of a bicomponent binder fiber.

4. A method as in claim 3, wherein said bicomponent binder fiber comprises an outer layer of polyethylene and an inner layer chosen from the group consisting of poly(ethylene terephalate) and polypropylene; and wherein said bicomponent fiber is 30-70 mm in length, and 1.7-6 dtex.

5. A method as in claim 1, wherein said second layer comprises a mixture of 60-85% by weight pulp and 15-40% by weight of said second bicomponent binder fibers, and wherein said second bicomponent binder fiber comprises an outer layer of polyethylene and an inner layer chosen from the group consisting of poly(ethylene terephalate) and polypropylene; and wherein said bicomponent fiber is 30-70 mm in length, and 1.7-6 dtex.

6. A method as in claim 5, wherein said binder fiber has a length of 40-60 mm, and is about 2.2 dtex.

7. A method as in claim 5, wherein said pulp comprises Southern Kraft.

8. A method as in claim 1, wherein said second layer is substantially dry.

9. A method as in claim 1, wherein said first layer is hydroentangled and contains moisture, said second layer is substantially dry, and said step of thermally bonding said layers comprises air drying of said unbonded composite to remove moisture from said first layer.

10. A method as in claim 1, wherein said second layer comprises substantially dry tissue.

11. A method as in claim 1, further comprising the step of providing a third layer, said third layer comprised of hydroentangled staple fibers having a third fiber binder component having a melting temperature substantially equal to said first and second binder fibers, said second layer sandwiched between said first and third layers to form said unbond composite, said unbond composite thermally bonded by heated air at a temperature in the range of said binder fiber melting point.

12. A method as in claim 1, wherein said first and second layers each having a basis weight between about 10-100 gm/m².

13. A method as in claim 1, wherein said first and second layers each having a basis weight between about 20-70 gm/m².

14. A composite non-woven fabric comprising:

- a) A first hydroentangled layer, said layer having at least a first binder fiber component;
- b) A second layer overlaying said first layer, a layer interface therebetween; said second layer having a high loft, high bulk component and a second binder component having a melting temperature substantially equal to said first binder component; said second binder component extending at least partially across said

layer interface and into said first layer; said first layer binder fiber component extending at least partially across said layer interface and into said first second layer, said first and second layers thereby bonded to one another.

15. A fabric as in claim 14, wherein said first layer comprises hydroentangled staple fibers.

16. A fabric as in claim 14, wherein said first layer comprises between 60-85% rayon fibers, and 40-15% of a bicomponent binder fiber.

17. A fabric as in claim 14, wherein said bicomponent binder fiber comprises an outer layer of polyethylene and an inner layer chosen from the group consisting of poly(ethylene terephalate) and polypropylene; and wherein said bicomponent fiber is 30-70 mm in length, and 1.7-6 dtex.

18. A fabric as in claim 14, wherein said second layer comprises a mixture of 60-85% by weight pulp and 15-40% by weight of said second bicomponent binder fibers, and wherein said second binder fiber comprises an outer layer of polyethylene and an inner layer chosen from the group consisting of poly(ethylene terephalate) and polypropylene; and wherein said bicomponent fiber is 30-70 mm in length, and 1.7-6 dtex.

19. A fabric as in claim 18, wherein said binder fiber has a length of 40-60 mm, and is about 2.2 dtex.

20. A fabric as in claim 18, wherein said pulp comprises Southern Kraft.

21. A fabric as in claim 14, wherein said second layer is substantially dry.

22. A fabric as in claim 14, wherein said first layer is hydroentangled and contains moisture, said second layer is substantially dry, and said step of thermally bonding said layers comprises air drying said first layer.

23. A fabric as in claim 14, wherein said second layer comprises substantially dry tissue.

24. A fabric as in claim 14, wherein said second layer comprises pulp.

25. A fabric as in claim 14, further comprising a third non-woven fabric layer, said third layer comprised of hydroentangled staple fibers having a third fiber binder component having a melting temperature substantially equal to said first and second binder fibers, said second layer sandwiched between said first and third layers to form said unbond composite, said unbond composite thermally bonded by heated air at a temperature in the range of said binder fiber melting point.

26. A fabric as in claim 14, wherein said first and second layers each having a basis weight between about 10-100 gm/m².

27. A fabric as in claim 14, wherein said first and second layers each having a basis weight between about 20-70 gm/m².

28. A method of making a high loft non-woven fabric comprising the steps of:

- a) hydroentangling a web, comprised of a binder fiber component;
- b) depositing a substantially dry air laid pulp layer on said hydroentangled web while said hydroentangled web is substantially wet to form an unbonded composite; said pulp layer having a binder fiber component; and
- c) simultaneously drying said hydroentangled web and bonding said unbonded composite by exposing said unbonded composite to heated air, said heated air at least partially melting said binder fiber, said binder fibers at least partially flowing across a pulp layer and web interface and thereby bonding said layer and said web together.